

S/075/63/018/001/006/010
E071/E452

An analytical application ...

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im.
V.I.Vernadskogo AN SSSR, Moskva (Institute of
Geochemistry and Analytical Chemistry imeni
V.I.Vernadskiy AS USSR, Moscow)

SUBMITTED: May 4, 1962

Card 2/2

GORYUSHINA, V.G.; SAVVIN, S.B.; ROMANOVA, Ye.V.

Photometric determination of rare earth elements in ores with
arsenazo III. Zhur. anal. khim. 18 no.11:1340-1344 N '63.
(MIRA 17:1)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy
institut redkometallicheskoy promyshlennosti i Institut ~~mekhimii~~
i analiticheskoy khimii imeni V.I. Vernadskogo AN SSSR, Moskva.

SAVVIN, S.B.; VOLYNETS, M.P.

Structure of the complexes of Th and La with arsenazo III.
Zhur. neorg. khim. 8 no.11:2470-2478 N '63.

(MIRA 17:1)

1. Institut geokhimii i analiticheskoy khimii imeni Vernadskogo AN SSSR.

S/032/63/029/002/001/028
B101/B186

AUTHOR: Savvin, S. B.

TITLE: Use of arsenazo III for the photometrical determination of Th,
U, Zr, Pa, Sc, and the rare-earth elements

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 2, 1963, 131 - 139

TEXT: On the basis of known data the author surveys photometrical analyses made with arsenazo III, a bis-azo dyestuff developed on the basis of chromotropic acid. The easy synthesis of this compound, the low disturbing effect of anions, and the possibility of working in acid solutions are pointed out. Pa, Th, Zr, Hf, and U^{IV} can be determined without separation of the accompanying elements. There are 2 figures, 2 tables, and 36 references. The English-language references are: V. I. Kuznetsov, S. B. Savvin, Anal. Chem., Sond. 161 (1960); S. B. Savvin, A. A. Muk, Bull. Inst. Nucl. Sci. "Boris Kidrich", 12, 97 (1961).

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo Akademii nauk SSSR (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy of the Academy of Sciences USSR)

Card 1/1

SAVVIN, S.B.

Advances in the use of reagents of the group arsenazo-thoron
in analytical chemistry. Usp.khim. 32 no.2:195-219 F '63.
(MIRA 16:4)

1. Institut geokhimii i analiticheskoy khimii AN SSSR imeni
V.I.Vernadskogo.

(Arsenazo) (Thoron) (Chemistry, Analytical)

ACCESSION NR: AP4009720

S/0075/64/019/001/0021/0027

AUTHOR: Savvin, S. B.; Dedkov, Yu. M.

TITLE: Analytical applications of bisazo-derivatives of chromotropic acid

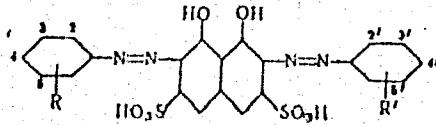
SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 1, 1964, 21-27

TOPIC TAGS: chromotropic acid, bisazo derivative, chromotropic acid bisazo derivative, reagent, sensitive reagent

ABSTRACT: The reactions of bisazo-derivatives of chromotropic acid with a number of elements were studied. The advantages of these reagents are: formation of stable complexes with elements, the possibility of working in strongly acidic solution, reproducible and reliable results, their importance for elements forming multiply charged cations, high sensitivity (0.1-0.01 micro gram/ml element), and sharply contrasting reactions. The study includes 40 derivatives containing groups capable of selective reaction. The general formula of these reagents based on Arsenazo III is

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ACCESSION NR: AP4009720



wherein R and R' are selected from the groups -H, -OH, -SO₃H, -COOH, -AsO₃H₂, -PO₃H₂, -NO₂, Cl, CH₃. The selectivity of the reagents, as well as the contrast of reactions and stability of the complexes formed, were mainly determined by the nature of the acid radical at the o-position to the azo-group and that of the substituent at the m-position to this group. The most interesting reactions appeared with reagents containing substituents with strongly electronegative activity and the following groups with analytical function: o-arseno-o'-hydroxyazo-(Th, U, TR, Pa, Zr), o-sulfo-o'-hydroxyazo-(Ba, Sr, Me I), o, o'-dihydroxyazo-(Nb, Zr, Sc, Te), o-phosphono-o'-hydroxyazo-(U, Sc). Other such reagents are recommended for various elements. The synthesis of the reagents is described. Orig. art. has: 8 formulas.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR, Moscow (Institute of Geochemistry and Analytical Chemistry of the AN'SSSR)

Card 2/3

ACCESSION NR: AP4019508

S/0075/64/019/003/0328/0336

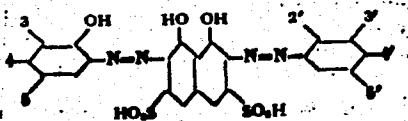
AUTHOR: Alimarin, I. P.; Savvin, S. B.; Dedkov, Yu. M.

TITLE: Color reactions of niobium ions with certain reagents containing o,o'-dihydroxyazo group

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 3, 1964, 328-336

TOPIC TAGS: niobium determination, color reagent, color reaction, chromotropic acid, R salt, dihydroxyazo group, chlorosulfophenol S, picramine R, complex, selectivity, extraction photometric analysis, complexing anion

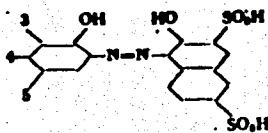
ABSTRACT: The following types of compounds containing the o,o'-dihydroxyazo group were investigated as reagents for niobium: bisazo compounds based on chromotropic acid (I):



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ACCESSION NR: AP4019508

and monoazo compounds based on R salt (II):



The OH, Cl, SO₃H, NO₂, OCH₃, SO₂N(CH₃)₂ derivatives of these acids were examined. Typical spectra are given where chlorosulfophenol S is the 2'-hydroxy-3, 3'disulfo-5,5'-dichloro- derivative of I, and picramine R is the 3,5-dinitro derivative of II. The reagents containing NO₂, Cl, SO₃H and other negative groups in the positions meta to the azo group form the most stable complexes of niobium and give the most contrasting reactions. The interaction goes on in strongly acid media, 1-6N HCl in the presence of tartaric acid and other complexing anions, except for fluorides and oxalates, which interfere. The reproducibility, reliability and selectivity of niobium determination is good. The niobium-reagent complexes are readily extracted with higher alcohols. An extraction-photometric method was developed based on the extraction of a diphenylguanidinium salt of the corresponding niobium complex and measuring the optical density of the extract. Sulfates, phosphates, chlorides,

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ACCESSION NR: AP4019508

tartrates, citrates and other anions in amounts up to 10-100 mg. in 25 ml, Zr (0.2-2 mg in the presence of complexone III), Ti (2-10 mg), Ta (0.1-0.5 mg), Ca, Al (5-25 mg) do not interfere with the determination. The determinable minimum is 1-2 micrograms of Nb in 25 ml. when bisazo derivatives of chromotropic acid are used, and 5-10 microgram of Nb in 25 ml. with R salt derivatives. Orig. art. has: 7 figures, 2 tables and 10 formulae.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo, AN SSSR (Institute of geo- and analytical chemistry, AM SSSR)

SUBMITTED: 19Oct63

DATE ACQ: 31Mar64

ENCL: 00

SUB CODE: CH

NO REP Sov: 028

OTHER: 002

Card 3/3

SAVVIN, S.B.; KADANER, D.S.; RYABOVA, A.S.

Photometric determination of zirconium in steel and cast
iron using arsenazo III. Zhur. anal. khim. 19 no.5:561-563
'64. (MIRA 17:8)

1. Institut geokhimii i analiticheskoy khimii imeni Vernadskogo
AN SSSR i Nauchno-issledovatel'skiy i proyektno-tehnologicheskiy
institut mashinostroyeniya, Kramatorsk.

L 17530-65 EWT(m)/EWP(t)/EWP(b) IJP(c)/AEWL/SSD JD/JG
ACCESSION NR: AP4047498 S/0075/64/019/010/1210/1218

AUTHOR: Ryabchikov, D. I.; Savvin, S. B.; Dedkov, Yu. M.

TITLE: A comparative study of certain reagents for scandium *B*

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 10, 1964, 1210-1218

TOPIC TAGS: scandium, color reagent, colorimetric analysis, photometric determination, complexonometric determination

ABSTRACT: The color reactions of scandium with the following organic reagents were compared: 2, 4-sulfochlorophenolanthranil; stilbazo; sulfonazo; xylene orange; chromazurol S; 3-nitrophenol R; pyrocatechol violet; arsenazo I, II, III, AYe, ASH, T, and M; 2, 4-sulfochlorophenol AYe, S, T and R. According to their sensitivity, selectivity and maximum admissible acidity, arsenazo III, 2, 4-sulfochlorophenol S and 2, 4-sulfochlorophenol R were found to be the most suitable for the photometric determination of scandium and xylene orange, arsenazo III and 2, 4-sulfochlorophenol were most suitable for the complexonometric determ-

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L 17530-65

ACCESSION NR: AP4047498

ination. An extraction-photometric method was suggested for increasing the selectivity of the scandium determination in the presence of rare earths. Diphenylguanidinium salts of Sc-2,4-sulfochlorophenol S or Sc-2,4-sulfochlorophenol R were extracted with butanol and the optical density of the extract was measured. 0.01% of scandium can thus be determined in rare earth compounds. Orig. art. has: 4 figures and 20 formulae.

ASSOCIATION: Institut geokhimii i anliticheskoy khimii im. V. I. Vernadskogo AN SSSR, Moskva (Institute of Geochemistry and Analytical Chemistry Academy of Sciences SSSR)

SUBMITTED: 21Jan64

ENCL: 00

SUB CODE : *IC, MM*

NO REF SOV: 020 OTHER: 030

Card 2/2

ACCESSION NR: AP4039247

S/0032/64/030/006/0645/0647

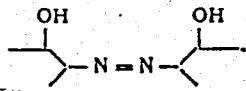
AUTHORS: Savvin, S. B.; Dedkov, Yu. M.

TITLE: Comparative study of certain color reactions of zirconium

SOURCE: Zavodskaya laboratoriya, v. 30, no. 6, 1964, 645-647

TOPIC TAGS: zirconium color reaction, zirconium photometric analysis, nitro-sulfophenol zirconium complex, picramine zirconium complex, metallic complex interference

ABSTRACT: After testing over 20 reagents for the photometric determination of zirconium, the authors selected nitrosulfophenol C and picramine P as the most effective. Both reagents contain the functional O,O'-dioxyazo- group



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ACCESSION NR: AP4039247

which reacts not only with zirconium compounds, but also with ions of rare-earth metals, Al, Ca, Th, U, etc. However, the latter are hydrolyzed at a pH corresponding to that of 0.9-1.2 normal HCl, while the zirconium compounds are more stable. The analytical procedure included reduction of the iron with ascorbic acid, acidification with HCl, the addition of the reagent, and photometric determination at 620 millimicrons for the nitrosulfophenol C zirconium complex, and at 565 millimicrons for the picramine P complex. In view of the solubility of the complexes in butanol without change of color, the authors used this material for a more selective analytical technique, which is described in detail. Orig. art. has: 1 table, 1 chart, and 1 formula.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo Akademii nauk SSSR (Institute of Geochemistry and Analytical Chemistry, Academy of Sciences SSSR)

SUBMITTED: 00

DATE ACQ: 18Jun64

ENCL: 00

SUB CODE: GC

NO REF Sov: 007

OTHER: 001

Card 2/2

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447420020-7

SAVVIN, S.B.

O.I. Milner's "Analysis of petroleum for trace elements". Zhur.
anal. khim. 19 no.7:908 '64. (MERA 17:11)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447420020-7"

L-33526-65 ENT(m)/EWP(t)/EWP(b) IJP(c) JD/JG
ACCESSION NR: AP5005472

S/0032/65/031/002/0154/0155

31

AUTHORS: Ryabchikov, D. I.; Savvin, S. B.; Dedkov, Yu. M.

30

B

TITLE: Extraction and photometric determination of scandium in rare earth preparations

SOURCE: Zavodskaya laboratoriya, v. 31, no. 2, 1965, 154-155

TOPIC TAGS: photometry, scandium, rare earth, calcium, magnesium, zinc, thorium, titanium, uranium, aluminum, iron II

ABSTRACT: The authors state that 2,4-sulfochlorophenol is the most appropriate reagent for separating rare earth elements and scandium and for the determination of the latter. At pH 2.5-3.0 it forms with scandium an intensely red complex easily extractable with n-butyl alcohol, while the rare earths and Ca, Mg, Zn, Fe(II) and Y remain in the aqueous phase. Thorium, titanium, and aluminum must be removed before analyzing for scandium is started. Thorium is removed by extraction with thoron I. Some 90% of thorium and 2-3% of scandium are extracted from 0.05-N HCl. Three consecutive extractions suffice for lowering the thorium content to the required limit. The authors state that 2,4-sulfochlorophenol may also be used

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L 33526-65

ACCESSION NR: AP5005472

for rapid extraction and precipitation of rare earth compounds in separating them from Th, Sc, Zr, Fe (II). Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo, Akademiya nauk SSSR (Institute of Geochemistry and Analytical Chemistry, Academy of Sciences SSSR)

SUBMITTED: 00

ENCL: 00

SUB CODE: GC

NO REF SOV: 001

OTHER: 002

Card 2/2

DEDKOV, Yu.M.; RYABCHIKOV, D.I.; SAVVIN, S.B.

Assortment of reagents for the photometric determination of
zirconium. Zhur. anal. khim. 20 no.5:574-584 '65.

(MIRA 18:12)

1. Institut geokhimii i analiticheskoy khimii imeni V.I.
Vernadskogo AN SSSR, Moskva. Submitted May 4, 1964.

SAVIN, S.B.; BORTSOVA, V.A.; MALKINA, Ye.N.

Photometric determination of niobium in zirconium-base alloys
by means of sulfochlorophenol C. Zhur. anal. khim. 20 no.9:
947-950 '65. (MIRA 18:9)

1. Institut geokhimii i analiticheskoy khimii imeni V.I.
Vernadskogo AN SSSR, Moskva.

L 41638-66 EMT(m)/EMT(t)/ETI IJP(c) JD/JG
ACC NR: AP6019491

SOURCE CODE: UR/0075/66/021/006/0669/0672

AUTHOR: Savvin, S. B.; Pisarenko, I. D.; Yurchenko, Ye. I.; Dedkov, Yu. M.

53
B

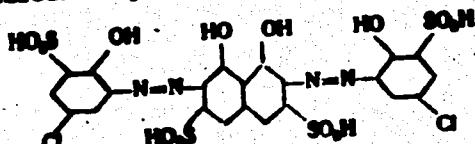
ORG: Institute of Geochemistry and Analytical Chemistry im. V. I. Vernadskogo (AN SSSR, Moscow (Institut geokhimii i analiticheskoy khimii AN SSSR); Scientific-Research and Design-Technological Institute of Machine Building, Krasnogorsk (Nauchno-issledovatel'skiy i proyektno-tehnologicheskiy institut mashinostroyeniya)

TITLE: Photometric determination of niobium¹⁷ in alloy steels using sulfochlorophenol S

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 6, 1966, 669-672

TOPIC TAGS: photometric analysis, niobium, niobium containing alloy, alloy steel

ABSTRACT: A rapid photometric method for determining 0.05-2.5% niobium in alloy steels is described. In this method, the steel sample is first dissolved in sulfuric acid and the niobium content is determined photometrically, using sulfochlorophenol S (solution in 3N HCl containing tartaric and phosphoric acids) as indicator. The structure of the sulfochlorophenol S indicator is



UDC: 543. 70

Card 1/2 af

L41638-65

ACC NR: AP6019491

A calibration curve is given for 5-40 milligram niobium per 50 ml solution. Excellent agreement was found between this photometric method and the gravimetric analysis method. Orig. art. has: 1 figure, 1 table, 1 formula.

SUB CODE: 07/ SUBM DATE: 24Nov64/ ORIG REF: 007

Card 2/2 af

ACC NR: AP6019015

(N)

SOURCE CODE: UR/0032/66/032/001/0012/0014

AUTHOR: Yurchenko, Ye. I.; Savvin, S. B.; Zubasheva, L. V.; Garan', V. F.; Mishinskaya, I.S.

ORG: Scientific-Research and Planning-Technological Institute for Machine Construction (Nauchno-issledovatel'skiy i proyektno-tehnologicheskiy institut mashinostroyeniya)

TITLE: Photometric determination of niobium in alloy steels by nitrosulfophenol S

SOURCE: Zavodskaya laboratoriya, v. 32, no. 1, 1966, 12-14

TOPIC TAGS: niobium containing alloy, alloy steel, colorimetric analysis, spectrophotometric analysis

ABSTRACT: A method was developed for the photometric determination of 0.01-2% Nb in alloy steels without the separation of Fe and the alloy elements. It is based on the reaction of Nb with nitrosulfophenol S in 3 N HCl solution. A sample of the steel (0.5 g with an expected content of 0.01-0.05% Nb and 0.25 g with an expected content of 0.05-2% Nb) is dissolved in 40 ml H_2SO_4 (1:4) in a 100 ml capacity glass; 1-1.5 ml of 0.05-2% Nb) is dissolved in 40 ml H_2SO_4 (1:4) in a 100 ml capacity glass; 1-1.5 ml of H_3PO_4 (1.70) is added; the solution is oxidized by adding drops of HNO_3 and steamed until SO_3 vapors appear. The walls of the glass are washed with H_2O and the mixture is heated again until SO_3 vapors reappear. After cooling, 15 ml of 20% tartaric acid

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UDC: 543.7

ACC NR: AP6019015

solution and some water are added. The solution is heated until the salts are dissolved, then it is cooled and transferred into a 100 ml measuring flask, and brought to the mark by the addition of distilled water. For the photometric determination, 4 ml of solution (with 0.01-0.10% Nb), 2 ml of solution (with 0.1-0.9% Nb) or 1 ml of solution (with 0.9-1.8% Nb) is placed in a 50 ml measuring flask; 24 ml of HCl (1:1), 15 ml of H₂O, and 1 ml of 0.1% solution of nitrosulfophenol S are added. The solution is heated for 5 min. at 65-70°C, cooled, and brought to the mark by the addition of distilled H₂O. The light absorption is then measured with an SF-4 spectrophotometer in a layer 10 mm thick on the wavelength of 640 m μ or with an FEK-M photometer in a layer 30 mm thick with a red light filter. The measuring is carried out with respect to the solution of an alloyed steel having about the same composition but no Nb. The nitrosulfophenol S is added to this solution. The time required for photometric determination is 2.5-3 hr. The average relative error of analysis is 2-6%. Orig. art. has: 1 fig. and 2 tables.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 005

Card 2/2

ACC NR: AP6028188

SOURCE CODE: UR/0032/66/032/006/0654/0657

AUTHOR: Yelinson, S. V.; Savvin, S. B.; Dedkov, Yu. M.; Tsvetkova, V. T.

CRG: none

TITLE: Photometric and differential-spectrophotometric determination of niobium in alloys with R-picramine

SOURCE: Zavodskaya laboratoriya, v. 32, no. 6, 1966, 654-657

TOPIC TAGS: quantitative analysis, niobium, spectrophotometric analysis

ABSTRACT: The article reports an investigation of the formation of complexes between niobium and R-picramine. The reagent reacts with niobium in a ratio of 1:1, and the molar coefficient of light extinction is approximately 11,000. The article describes a photometric method for determining niobium in molybdenum, tungsten, uranium, titanium, tin, and aluminum base alloys. The method permits determination of amounts from 0.1% with a relative accuracy of $\pm 10\%$. A curve shows the optical density as a function of the acidity of the solution. The second part of the article describes a differential spectrophotometric method for determining niobium in alloys and intermetallic compounds with tin. The method permits determination of $> 70\%$ Nb with a relative accuracy of 1.5%. Experimental data are exhibited in tabular form. Orig. art. has: 3 figures and 3 tables.

SUB CODE: 07, 11, 20/ SUBM DATE: none/ ORIG REF: 006
Card //

UDC: 543.7

ACC NR: AM6019243

Monograph

UR/

Savvin, Sergey Borisovich

Arsenazo III; methods of photometric determination of rare and actinide elements
(Arsenazo III; metody fotometricheskogo opredeleniya redkikh i aktinidnykh
elementov) Moscow, Atomizdat, 1966. 255 p. illus., biblio. 2350 copies printed.

TOPIC TAGS: analytic~~s~~ chemistry, spectrophotometric analysis, metal chemical analysis, trace analysis, rare earth metal, refractory metal, actinide element, actinium, arsenic compound, inorganic azo compound

PURPOSE AND COVERAGE: This is an up-to-date reference book for analytical industrial and analytical research chemists, chemical laboratory technicians, and students majoring in analytical chemistry, who have to deal with arsenazo III and its analogs. The author who was claimed to be the first to synthesize arsenazo III and certain of its analogs, assembled in this book theoretical and practical research data, including the most recent, on the analytical organic reagents of the arsenazo-thorin group. Formation, structure, and stability of the complexes of the reagents with various elements and other properties of the reagents are examined in the first part of the book. In the second part, applications of the reagents are discussed to individual or group determination of the rare, rare earth, and actinide elements and operating procedures are given for quantitative analysis of specific materials. Selectivity, sensitivity, and other data are indicated for each spectrophotometric determination. Determinations of micro-quantities of rare earth elements in high-alloy steel (p. 181-182), in aluminum

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UDC: 543.244.6

ACC NR: AM6019243

and magnesium alloys (p. 184-186) may be of interest for aerospace technology. Also, methods should be mentioned of co-precipitation or protactinium and curium traces with arsenazo III from very dilute solutions (p. 210-211) and determination of microquantities of Nb in alloy steel and Mo in Zr and U-base alloys (p. 222-230). Soviet and other Communist sources make up about 80% of the total of 260 references.

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Part 2. Methods of determination of the elements

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ACC NR: AM6019243

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SUB CODE: 07/0/ SUBM DATE: 27Jan66/ ORIG REF: 205/ OTH REF: 056/

Card 3/3

ACC NR: AP7011824

SOURCE CODE: UR/0075/66/021/009/1075/1081

AUTHOR: Savvin, S. B.; Milyukova, M. S.

ORG: Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy of the Academy of Sciences USSR, Moscow (Institut geokhimii i analiticheskoy khimii AN SSSR)

TITLE: Arsenazo III and some of its analogs as reagents for plutonium

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 9, 1966, 1075-1081

TOPIC TAGS: plutonium, chrome dye, organic arsenic compound, organic azo compound

SUB CODE: 11,07

ABSTRACT: A study was made of several bis-azo dyes based on chromotropic acid, containing a functional-analytical o-arsono-o'-oxyazo-group and an o,o'-dioxyazo-group as reagents for tetravalent plutonium. Reagents containing an o-arsono-o'-oxyazo-group react with plutonium in strongly acidic media (1-4N HNO₃) with high sensitivity (molar coefficients of extinction of the order of 60,000 - 120,000), but the selectivity of the reagents is not high (Th, U, and Zr interfere, as do rare earth and other elements).

Reagents containing an o,o'-dioxyazo-group react with tetravalent plutonium in

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ACC NR: AP7011824

less acidic media (0.1 - 1N HNO₃) are less sensitive (molar coefficient of extinction is 30,000 - 60,000), but are more selective (Zr, Nb, and Mo interfere). Of the reagents studied, the best for determination of plutonium in aqueous solutions are arsenazo III and arsenazo-amino- β -acid. Orig. art. has: 9 figures and 3 formulas.

[JPRS: 40,361]

Card 2/2

ACC NR: AP7008603

(A')

SOURCE CODE: UR/0075/67/022/001/0065/0069

AUTHOR: Savvin, S. B.; Dedkov, Yu. M.; Romanov, P. N.

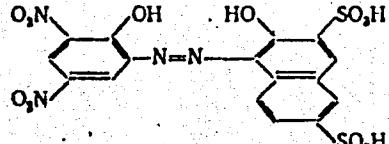
ORG: Institute of Geochemistry and Analytical Chemistry im. V. I. Vernadskiy, AN SSSR, Moscow (Institut geokhimii i analiticheskoy khimii AN SSSR); All-Union Scientific Research and Planning Institute of Chemical and Petroleum Instrumentation Technology, Volgograd (Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy institut tekhnologii khimicheskogo i neftyanogo apparatostroyeniya)

TITLE: Determination of zirconium in high-alloy steels using picramine R and arsenazo III

SOURCE: Zhurnal analiticheskoy khimii, v. 22, no. 1, 1967, 65-69

TOPIC TAGS: zirconium, photometric analysis

ABSTRACT: A direct extractive-photometric method was developed for determining 0.01-1.0% zirconium in alloy steels with a relative error of 3-13%, picramine R



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UDC: 543.70

ACC NR: AP7008608

being used in the presence of up to 23% Cr, 13% Ni, 0.11% Cu, 3% W and other elements. A combined method is proposed (relative error 1-10%) for determining 0.04%-5% zirconium, involving the simultaneous use of picramine R and arsenazo III in the presence of up to 1% Nb and 6% Mo in addition to the above-mentioned elements. For both methods, variants were developed for the differential determination of zirconium. The error of the determination for the differential variants does not exceed 2.0%. Orig. art. has: 2 figures and 1 table.

SUB CODE: 07/ SUBM DATE: 29Dec65/ ORIG REF: 008/ OTH REF: 001

Card 2/2

SAVVIN, S. G., PETRUSHININ, K. V.

Tobacco Manufacture and Trade

Information. Tabak 13 no. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, June 1958. Unclassified.

2

SAVVIN, S.N.; Us, V.I.

Dual stand pipes for pouring petroleum products into tank trucks.
Transp. i khran. nefti no.10:19-21 '63. (MIRA 17:9)

1. Krasnodarskoye upravleniye Glavnogo upravleniya po transportu i
snabzheniyu neft'yu i nefteproduktami RSFSR.

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447420020-7

OGOLEV, B.V., SAVVIN, V.N., and SAVALEVA, L.A.

"The Blood Vessels of the Heart in Norm and Pathology," Moscow, Medgiz
1954, 118 pp.

Comments : B 3,102,723, 18 Apr 58

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447420020-7"

L 24868-66 EWT(m)/EWP(f)/EPF(n)-2/EWP(j)/T/ETC(m)-6 WW/WE/RM

ACC NR: AP6006399

(N)

SOURCE CODE: UR/0413/66/000/002/0142/0143

AUTHORS: Savvin, V. N.; Komm, P. S.; Shostak, V. F.

64

B

ORG: none

TITLE: Fuel cut-off device for gas turbine installations. Class 46, No. 178246

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1966,
142-143

TOPIC TAGS: engine fuel system, gas turbine fuel, gas turbine control, polymer

ABSTRACT: This Author Certificate presents a fuel cut-off device for gas turbine installations, consisting of a body which contains a valve with a valve rod, the valve seat, and fuel inlet and outlet chambers. To make it more explosion-proof, the body has an intermediate low-pressure chamber connected to the gas suction line. The valve is two-sided, in the form of a slider valve with ports and a chamber connected with the low-pressure chamber when the valve is closed (see Fig. 1). A second feature provides polycaprolactam inserts between the valve seat and plunger. A third feature has the connection between valve and valve rod located in the low-pressure chamber.

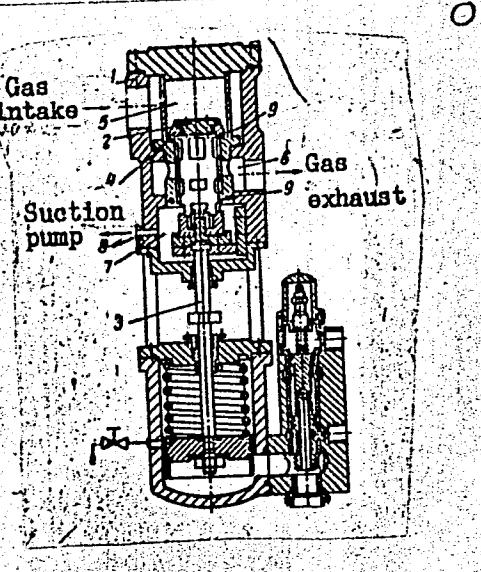
UDC: 621.438--333.1

Card 1/2

L 24868-66

ACC NR: AP6006399

Fig. 1. 1 - body; 2 - valve; 3 - rod;
4 - seat; 5 - inlet chamber;
6 - outlet chamber; 7 - low-pressure
chamber; 8 - leakage suction;
9 - inserts.



Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 15Aug64

Card 2/2 cda

SAVVIN, V.N., inzh.; SEKUNDA, A.T., inzh.; KARTSEV, A.I., inzh.;
GALETSKIY, N.S., inzh.

Some problems concerning the component distribution and
compensation of thermal expansion of the GTU-50-800 gas
turbine system manufactured by the Kharkov Turbine Plant.
Energomashinostroenie 8 no.11:10-13 N '62.

(MIRA 16:1)

(Gas turbines)

ZOLOTKO, Yuriy Leonidovich; SAVVIN, V.N., red.

[Atlas of human topographical anatomy] Atlas topogra-
ficheskoi anatomi cheloveka. Moskva, Meditsina.
Pt.1. 1964. 214 p. (MIRA 18:1)

SAVVIN, Ye.A., inzhener.

The use of covered cores. Lit.proizv. no.12:25-26 D '55.
(MLRA 9:3)

(Coremaking)

SAVVIN, Ye.A., inzhener.

Improving the founding of bearing caps. Lit. proizv. no.8:
(MLRA 9:10)
30 Ag '56.

(Bearing industry) (Founding)

DANVILK, I. G.

Mbr., Lab Mineral Fertilizers, Inst. Fertilizers, Agric. Techniques & Soil Sci., Moscow, Lab. Mineral Fertilizers, Inst. Fertilizers, Agric. Techniques & Soil Sci., Moscow, -1941-. "Role of Molybdenum in Plants Development," Dok. AN, 29, No. 7, 1940; "Practically Important Properties of Millet Oil," ibid., 33, No. 3, 1941.

SAVVINA, A.M., inzh.-ekonomist; MITINA, S.I., inzh.-ekonomist

New norms for determining the labor force of communication enterprises.
Vest. sviazi 20 no.8:22-24 Ag'60. (MIRA 13:10)

1. Otdel truda i zarabotnoy platy Ministerstva svyazi SSSR.
(Telecommunication--Employees)

MITINA, S.I., inzh.-ekonomist; SAVVINA, A.M., inzh.-ekonomist

New production norms for workers of the telecommunication service
occupations. Vest. sviazi 21 no.12:25-26 D '61. (MIRA 14:12)

1. Otdel truda i zarplaty Ministerstva svyazi SSSR.
(Telecommunication--Employees)

SAVVINA, A.M., inzh.-ekonomist

New rules for setting-up work standards for letter carriers. Vest.
sviazi 22 no.7:30-31 Jl '62. (MIRA 15:7)

1.Otdel truda i zarabotnoy platy Ministerstva svyzsi SSSR.
(Postal service--Letter carriers)

SAVVINA, A.M.

Determination of work norms of letter carriers taking into account
the time of telegram deliveries. Vest. sviazi 23 no.12;20-21 D '63.
(MIRA 17:2)

1. Starshiy inzh.-ekonomist otdela truda i zarabotnoy platy Minis-
terstva svyazi SSSR.

The formation of methyl alcohol in the various processes
of alcohol production. D. N. Klimovskii, N. A. Losev, and
A. P. Savvina. *Spirtovaya Prom.* 20, No. 4, 18-20 (1954). —

The formation of MeOH starts during the boiling of the raw
material under steam pressure; the amt. formed depends
on the pressure, time, and raw product used. For example,
in potatoes at 4 atm., the amt. of MeOH decreased from
0.0042 to 0.0023 ml. per 100 g. steamed material if the con-
tact time was decreased from 45 to 35 min. Both oats at
120 min. and rye at 80 min. contact with 5 atm. steam pro-
duce 0.00035 ml. MeOH/100 g. finished mass. During
mashification, fermentation, distill., etc., some of the
MeOH is lost, so, irrespective of the analysis of the starting
wort and mash, the final crude EtOH will contain 0.08-
0.09% MeOH.

Werner Jacobson

FREMEL', V.B.; SAVVINA, A.P.; MEUMH, N.S.; MARFINA, A.M.

Investigating the methods for separation of the solid fraction of
acetone-butyl waste. Trudy TSMNIISP no.6:98-105 '58. (MIRA 14:12)
(Distilling industries--By-products)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447420020-7

FREMEL', V.B.; SAVVINA, A.P.; MEUKH, N.S.; MARFINA, A.M.

Using acetone-butyl waste instead of water in cooking. Trudy
(MIRA 14:12)
TSNIISP no.6:106-111 '58.
(Acetone) (Butyl alcohol) (Fermentation)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447420020-7"

FRETEL', V.B.; SAVVINA, A.P.; MEUKH, N.S.; MARFINA, A.M.

Use of acetone - butyl alcohol distilling washes for the cultivation of baker's yeasts. Trudy TSNIISP no.7:76-84 '59.
(MIRA 13:9)

(Yeast) (Alcohol)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447420020-7

FREMEL', V.B., SAVVINA, A.P.; MEUKH, N.S.; MARFINA, A.M.

Use of acetone - butyl alcohol distilling washes in the manufac-
ture of alcohol. Trudy TSMIISP no.7:69-75 '59. (MIRA 13:9)
(Alcohol)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447420020-7"

KOLOSKOV, S.P.; KOMAROV, A.F.; SAVVINA, A.P.; SERGEYEVA, N.M.; MOSKVICHEVA E.P.;
Prinimali uchastie: DAVYDOVSKAYA, N.G.; NIKITINA, R.Ya.; PILLER, Ya.Ya.

Yeast generator with self-aeration. Ferg.i spirit.prom. 31 no.1:26-
28 '65. (MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut fermentnoy i
spiritovoy promyslennosti (for all except Davydovskaya, Nikitina,
Piller). 2. Glavnyy inzh. Rakvereskogo spirtozavoda (for Piller).

MOSKVICHEVA, F.P.; SAVVINA, A.P.; BOCHAROV, S.N.; KOSIKOV, K.V.

Testing hybrid yeast strains on molasses with distiller's waste.
Fizika, biokhimiya i mikrobiologiya no. 5, 505-512 S-0 '65.

(MIRA 18:11)
1. Institut genetiki AN SSSR i Vsesoyuznyy nauchno-issledovatel'skiy institut fermentnoy i spiritovoy promyshlennosti.

SAC: N/A

PHASE I BOOK EXPLOITATION

SOV/4441

Voprosy rascheta elementov aviatsionnykh konstruktsiy; raschet trekhloynykh paneley i obolochek, sbornik statey, no. 2 (Problems in Calculating Aircraft Construction Elements; Calculation of Sandwich Panels and Shells, Collection of Articles, No. 2) Moscow, Oborongiz, 1959. 135 p. Errata slip inserted. 1,900 copies printed.

Eds.: A. Ya. Aleksandrov, Doctor of Technical Sciences, Professor, and L.M. Kurshin, Candidate of Technical Sciences; Managing Ed.: A.S. Zaymovskaya, Engineer; Ed. of Publishing House: P.B. Morozova, Tech. Ed.: V.I. Oreshkina.

PURPOSE: This book is intended for engineers, designers, scientific workers and students.

COVERAGE: The book is a collection of 10 articles dealing with theoretical and experimental investigation of the strength of sandwich constructions with light-weight fillers of the foamed-plastic type and rigid fillers of the corrugated and honeycomb type. The articles discuss the general rigidity of sandwich plates and cylindrical shells during longitudinal compression; simultaneous bending, compression and shear of plates; local rigidity; problems in the determination

Card 1/3

Problems in Calculating Aircraft Construction (Cont.) SOV/4441

of reduced elastic parameters of honeycomb fillers; and the selection of optimum parameters for plates. No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

Aleksandrov, A.Ya., and E.P. Trofimova. Determination of Reduced Elastic Parameters of Honeycomb Fillers in Sandwich Panels	3
Aleksandrov, A.Ya., G.S. Savvina, and G.M. Talanova. Local Rigidity of Sandwich Plates With Corrugate-Type Fillers Subjected to Compression	27
Kurshin, L.M. Rigidity of Cylindrical Sandwich Shells Beyond the Elastic Limit	43
Bryukker, L.E. Bending of Sandwich Bars by Concentrated and Distributed Loads	52
Bryukker, L.E. and E.P. Trofimova. Calculation of Sandwich Plates Subjected to Simultaneous Action of Transverse Load, Compression and Shear	81
Bryukker, L.E. Longitudinal and Transverse Bending of a Plate with Rigid Filler	94

Card 2/3

Problems in Calculating Aircraft Construction (Cont.) SOV/4441

Bryukker, L.E. Approximate Solutions of Some Problems in the Longitudinal and Transverse Bending of Sandwich Plates With Rigid Orthotropic Fillers 98

Aleksandrov, A.Ya., and L.M. Kurshin. Compression of an Underpropped Plate 114

Aleksandrov, A.Ya. L.M. Kurshin and A.P. Prusakov. On the Selection of Parameters for Sandwich Plates With Lightweight Fillers Subjected to Compression 125

Aleksandrov, A.Ya., and L.E. Bryukker. Results of Tests of Rectangular Sandwich Plates for Longitudinal Compression 131

AVAILABLE: Library of Congress

Card 3/3

AC/rn/gmp
10-27-60

ALEKSANDROV, A.Ya.; SAVVINA, G.S.; TAIANOVA, G.M.

Local compressive strength of sandwich plates with a corrugated
filler. Vop.rasch.elem.aviat.konstr. no.2:27-42 '59.
(MIRA 13:6)

(Elastic plates and shells)

SAVVINA, K.I. (Stavropol')

Histogenesis of Chiari's disease and the role of the nutritional factor in its etiology. Arkh. pat. 26 no.3:57-63 '64.
(MIRA 18:12)

1. Kafedra patologicheskoy anatomii Stavropol'skogo meditsinskogo instituta.

SAVINA, K.I.

Pathological anatomy of atrophic liver cirrhosis. Arkh. pat., Moskva
(CLML 22:1)
14 no.1:65-70 Jan-Feb 1952.

1. Of the Department of Pathological Anatomy (Head -- Docent K.. I.
Savvina), Stalinabad Medical Institute.

USSR / Forestry. Forest Cultures

Abs Jour: Ref Zhur-Biol., No 10, 1953, 43976

Author : Savvina, N. D.

Inst : AS Turkmen SSR

Title : Experiment in the Culture of Tree Species on the
Sea Shell Sands of the Eastern Coast of the
Caspian Sea (Bekdash)

Orig Pub: Izv. AN Turkmen SSR, 1957, No 3, 129-133

Abstract: On the northern sand bar of the Karabogazgol bay where the settlement Bekdash is situated, one can observe "floating lenses" of fresh subsurface water. These lenses are disposed on the surface of strongly mineralized waters. The depth of the occurrence of these lenses is 0.3 to 8.0 meters and

Card 1/3

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K-5

USSR / Forestry. Forest Cultures

Abs Jour: Ref Zhur-Biol., No 10, 1953, 43976

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a thickness of up to 2 meters. The dry residue weighs up to 11 grams per liter and is of the sodium chloride type. There is no real soil on the sand bar. From the surface to the depth of 7 to 10 meters, it consists of small-grain sands which in their turn consist of pulverized shells comprising up to 80 percent of the sand. Under the entire thickness of the sand, in the horizontal direction, are beds and layers of tightly compacted shells (shell rock) with a thickness of up to 40 centimeters which prevents the penetration of the plant roots to the subsurface water. Sands of a yellowish hue lie at the level of the subsurface water. Below the level the sand is dark-grey with signs of anaerobic processes. Upon being planted into trenches with an artificial soil layer the

Card 2/3

K-5

USSR / Forestry. Forest Cultures

Abs Jour: Ref Zhur-Biol., No 10, 1958, 43976

following grow well: tamarisk, wild olive, willow,
white acacia, Lombardy poplar, sophora, the petta
[?], elm, amorpha, the cherkez (*Salsola Richteri*
Karel), sand acacia, pear, fig, grape, and caisal-
pinia. - I. K. Fortunatov

Card 3/3

BERNSHTEYN, S.A.; AKSEL'ROD, D.S.; SAVVINA, M.D.; SLAVUTSKIY, S.M.,
otv. red.; KRAsovskiy, I.P., red. izd-va

[New, more waterproof types of concrete with lower consumption
of slag portland cement] Novye vidy betonov povyshennoi vodo-
nepronitsaemosti s ponizhennym raskhodom shlakoportland-tsementa;
informatsionnoe soobshchenie. Moskva, Gosgortekhizdat, 1962. 7 p.
(MIRA 16:3)

(Concrete)

SAVVINA, N. M.

USSR/Metals - Cast Iron, Properties

Oct 51

"Effect of Surface Hardening on the Fatigue Limit of High-Strength Cast Iron," Prof. I. V. Kudryavtsev, Dr. Tech Sci, N. M. Savvina, Engr, TsvNITMASH, 3

"Litoy Prolzvod" No 10, pp 18-22

Repts for studying effect of surface hardening by shot peening, rolling and case hardening on endurance of cast irons revealed no positive results for gray cast iron, but fatigue limit of high-strength cast iron was considerably increased. Latter factor may have important

198T69

USSR/Metals - Cast Iron, Properties Oct 51

(Contd)

significance for crankshafts, increasing wear-resistance of metal. Illustrated by numerous diagrams and micrographs.

198T69

BTR

1351* Increase of Fatigue Strength of Welded Joints by Surface Peening. I. V. Kudriatsev and N. M. Savina. *Avtomobil' Doba*, v. 22, Apr. 1951, p. 8-12.

Cylindrical, plate, and channel-beam fatigue specimens were prepared by butt and lap arc-welding and were given various stress relief and peening treatments. Data are discussed, tabulated and charted. 14 ref.

SAVILIN, M. . .

Dissertation: "The Effect of Surface Treatments on the Fatigue Strength and Life of Products Made of Cast Iron with Globular Graphite." Cand Tech Sci, Central Sci Res Institute of Technology and Machine Building (TsNIITMash), Moscow, 1953. (Referativnyy Zhurnal-Khimiya, No 11, Moscow, Jun 54.)

DD: SUM 318, 23 Dec 1954

SAVVINA, N. M.
USSR Physics - Steel, Stress

FD 362

Card 1/1

Author : Kudryavtsev, I. V. and Savvina, N. M.

Title : Preservation of the effect of residual stresses on the fatigue strength of steel parts during their prolonged storage

Periodical : Zhur. tekhn. fiz. 24, 412-416, Mar 1954

Abstract : Investigation consisted in tracing variation of endurance during 2-year aging of 2 types of carbon steel, with concentrated stresses (with incisions) and without them. Prolonged storage of steel parts with residual stresses produced by superficial rolling does not affect endurance of steel.

Institution :

Submitted : September 22, 1953

SAVVINA, N. N.

14633* (Efficiency of Surface Hardening of Parts With Transverse Holes.) Effektivnost' poverkhnostnogo uprachneniya detalei s poperechnymi otverstiyami. I. V. Kudriavtsev and N. M. Savvina. Vestnik Mashinostroenija, v. 34, no. 1, Jan. 1954, p. 61-65.

Steel plates and rods tested to establish effects of cold hardening on fatigue strength in bending and torsion. Tables, graphs, photographs. 4 ref.

3

Translation B-79031, 22 Sep 54

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447420020-7

SAVVINA N.M.

KUDRYAVTSEV, I.V., doktor tekhnicheskikh nauk; SAVVINA, N.M., kandidat
tekhnicheskikh nauk.

Determination of the efficiency of surface hardening of machine
parts with transverse holes. [Trudy] TSNIITMASH no.63:62-78 '54.

(MLR 7:9)

(Machinery) (Steel alloys--Hardening)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447420020-7"

KUDRYAVTS~~EV~~V, I.V.; doktor tekhnicheskikh nauk, professor.; SAVVINA, N.M.;
kandidat tekhnicheskikh nauk.

The role of residual stresses in the fatigue strength of shafts
with fixed supports. Met. i obr.met. no.5: 17-23 N '55. (MLRA 9:3)

1. Tsentral'nyy nauchno-issledovatel'skiy institut tyazhelogo
mashinostroyeniya.
(Shafts and shafting) (Strains and stresses)

KUDRYAVTSEV, I.V., professor, doktor tekhnicheskikh nauk; SAVVINA, N.M.
kandidat tekhnicheskikh nauk; ZAYTSEV, G.Z., inzhener

Stability of the effect of residual stress in fatigue strength of
steel parts (at the time and under the influence of varying loads)
[Trudy] TSNIITMASH no.70:5-22 '55. (MLRA 8:11)
(Steel, Structural--Fatigue)

01 3524

KUDRYAVTSEV, I.V., professor, doktor tekhnicheskikh nauk; SAVVINA, N.M.,
kandidat tekhnicheskikh nauk

Strengthening cast iron part surfaces with spheroidal graphite.
[Trudy] TSNIITMASH no.70:99-120 '55. (MLRA 8:11)
(Cast iron--Metallurgy)

✓ 1147. (Russian) Increasing the Contact Fatigue Strength
of Steel Plates by Surface Cold Working. *Povysenie kon-*
taktno-usilostnoi prochnosti statyki plastin poverk-
hnostnym naklegom. I. V. Kudravtsev and N. M. Savina.
Metallovedenie i Obrabotka Metallov, 1956, no. 9, Sept. 1956,
p. 31-41.

A study of the fatigue strength in contact zones of steel plates
50 mm. thick and of improving this strength by cold working.

Savvina N.M.

AID P - 5589

Subject : USSR/Engineering

Card 1/1 Pub. 107-a - 1/12

Author : Kudryavtsev, I. V., Dr. of Tech. Sci., Prof. and
N. M. Savvina, Kand. of Tech. Sci.

Title : Fatigue strength of joints of large section area welded
by submerged arc.

Periodical : Svar. proizv., 11, 1-6, N 1956

Abstract : The authors describe the tests given to specimens of
rolled 50 to 75mm thick 22K steel welded by submerged
arc, and the equipment used. The results obtained from
unfinished, planed and peened specimens are given.
Eight drawings, 4 graphs, 3 tables; 4 Russian references
(1949-56), 1 photo (4 microstructures).

Institution : Central Scientific Research Institute of Machine-Building
Technology (TsNIITMASH).

Submitted : No date

AID P - 5604

Subject : USSR/Engineering

Card 1/2 Pub. 107-a - 4/12

Authors : Livshits, L. S., Kand. of Tech. Sci., N. M. Savvina,
Kand. of Tech. Sci., L. P. Bakhrakh, Eng. and I. I.
Lunin, Eng.

Title : Endurance of welded joints of 20 and 30KhMA steels

Periodical : Svar. proizv., 12, 14-16, D 1956

Abstract : The authors present the results of tests given to two types of welded pipes: a) the 35mm thick, 229mm in diameter, 20-steel pipes automatically butt-welded by Sv-08A electrode wire of 2mm gage, the AN-348 flux, and tempered at 550-560°C [in which the weld has higher strength than the base metal] and b) the 52mm thick 30KhMA-steel pipes of the same diameter, automatically butt-welded by the Sv-Kh5M electrode of the 2mm gage, using AN-15 flux, and tempered at 650-660°C in which the joint turned out to be lower in strength than the

AID P - 5604

Svar. proizv., 12, 14-16, D 1956

Card 2/2 Pub. 107-a - 4/12

welded pipes]. Three tables, 2 graphs, 1 macro-picture and 1 drawing.

Institutions: All-Union Scientific Research Institute for Building of Petroleum Enterprises (VNIISstroyneft'), Central Scientific Research Institute of Machine-Building Technology (TsNIITMASH).

Submitted : No date

14842* (Russian.) Effects of the Material of Surrounding
Parts on the Fatigue Strength of Axles and Shafts. Vlitanie
materiala okhvativushchikh detalei na yestalostnuyu pro-
yehnost' osei i valov. I. V. Kudriatsev and N. M. Savina.
Vestnik Mashinostroyeniya, v. 36, no. 7, July 1956, p. 10-11.

A study of the decrease in fatigue strength of axles and shafts
where they are in contact with fixed parts, such as the inner
races of roller bearings.

2
5
3

gj

KUDRYAVTSEV, I.V., doktor tekhnicheskikh nauk, professor; SAVVINA, N.M.;
BARANOVA, N.B., kandidat tekhnicheskikh nauk; BALABANOV, N.A.;
BOGACHEV, I.N., doktor tekhnicheskikh nauk, professor, retsenzent;
KLOCHNEV, N.I., kandidat tekhnicheskikh nauk, redaktor; SIROTIN,
A.I., inzhener, redaktor izdatel'stva; MATVEYEVA, Ye.N.,
tekhnicheskiy redaktor

[Structural strength of nodular cast iron] Konstruktionnaia
prochnost' chuguna s sharovidnym grafitom. Moskva, Gos.
nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1957. 158 p.
(Cast iron) (MLRA 10:6)

137-58-6-12299

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 159 (USSR)

AUTHORS: Kudryavtsev, I.V., Savvina, N.M.

TITLE: Surface Hardening as a Means of Increasing the Fatigue Strength of Shafts with Stationary Fits (Poverkhnostnyy naklep kak sredstvo povysheniya ustalostnoy prochnosti valov s nepodvizhnymi posadkami)

PERIODICAL: V sb.: Vopr. konstrukts. prochnosti stali. Moscow, Mashgiz, 1957, pp 5-39

ABSTRACT: Experiments establish that the fundamental cause for increase in fatigue strength (FS) of knurled axles and shafts (S) with gripping sleeves is residual compressive stress. Grinding away or turning the knurled layer to a depth of 30% of the total depth of work-hardening decreases only insignificantly the FS of S carrying fixed sleeves. The hardness of the material of the gripping sleeves, made of St of various compositions, has no significant effect upon the FS of S made of Nr 45 steel. An increase in the endurance limit of S by surface hardening is achieved after the first pass of the knurling rolls, and subsequent passes (≤ 10) do not cause further rise in FS. Ye.L.
Card 1/1
1. Metals--Hardening 2. Metals--Processing 3. Metals--Mechanical properties

Savvina, N.M.

135-58-4-5/19

AUTHORS: Kudryavtsev, I.V., Doctor of Technical Sciences, Professor; Naumchenkov, N.Ye., Engineer; and Savvina, N.M., Candidate of Technical Sciences

TITLE: Fatigue-Limits of Electroslag-Welded Joints of Large Section Elements (Ustalostnaya prochnost' soyedineniy elementov krupnykh secheniy, vypolnennykh elektroshlakovoy svarkoy)

PERIODICAL: Svarochnoye Proizvodstvo, 1958, Nr 4, pp 15-19 (USSR)

ABSTRACT: The article contains a detailed description of fatigue tests of welded rolled 22K-steel sheets, 250 to 300 mm thick, carried out at TsNIITMASH in collaboration with the Novo-Kramatorskiy mashinostroitel'nyy zavod (Novo-Kramatorsk Machine-Building Plant) on special testing machines for large-section specimens, designed by TsNIITMASH. The technology of tests, chemical composition of base and weld metals and results of tests are given in Tables 1 - 5. The tests were carried out with rectangular and cylindrical specimens. The following conclusions were made: joints subjected to mechanical processing possess high limits of strength; the mechanical removal of protruding weld metal

Card 1/2

135-58-4-5/19

Fatigue-Limits of Electroslag-Welded Joints of Large Section Elements

is more effective than heat treatment; machining of weld joints can eliminate heat treatment; absolute dimensions affect fatigue limits of cylindrical and flat specimens. The strength limit of 150 to 200 mm thick specimens was 25% lower than that of 20 mm thick specimens. There are 5 tables, 4 figures, 2 photographs and 5 Soviet references.

ASSOCIATION: TsNIITMASH

AVAILABLE: Library of Congress

Card 2/2

S/137/60/000/009/016/C29
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No. 9, p. 251.
21535

AUTHORS: Kudryavtsev, I.V., Savvina, N.M.

TITLE: Fatigue Strength of Large-Size Plate Parts

PERIODICAL: V sb.: Nekotoryye probl. prochnosti tverdogo tela, Moscow-Lenin-grad, AN SSSR, 1959, pp. 256-267

TEXT: An investigation was made of the cyclic strength of 50 and 200 mm thick steel plates and of an increase in the fatigue strength by hardfacing. The bending tests in one plane were carried out on special designed installations. Prismatic rod-shaped specimens of 22 K rolled carbon steel were used. The authors established the values δ_{W} of the plates outside the contact zones and in the spots of contact with the clamp supports (when clamping the specimens at the extremities). At a thickness of the plates increased from 50 to 200 mm, the cyclic strength drops considerably under conditions of contact, outside the contact zones

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Fatigue Strength of Large-Size Plate Parts

S/137/60/000/009/015/029
A006/A001

it almost does not vary. Strengthening hardfacing of the contact surfaces of 50 and 200-mm thick plates raises effectively their cyclic strength.

S.G. ✓

Translator's note: This is the full translation of the original Russian abstract.

(cont. Sci. Res. Inst. of Technology & Machinery (TsNIITMASH))

Card 2/2

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447420020-7

KUDRYAVTSEV, I.V., doktor tekhn. nauk; SAVVINA, N.M., kand. tekhn. nauk.

Fatigue strength of large-sized plate parts and methods for raising
this strength. Vest. mash. 39 no.1:42-47 Ja '59. (MIRA 12:1)
(Steel--Fatigue)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447420020-7"

KUDRYAVTSEV, I.V., doktor tekhn.nauk; SAVVINA, N.M., kand.tekhn.
nauk; ROZENMAN,L.M., inzh.

Causes of reduction of the fatigue strength in steel in
the zones of contact. Metalloved. i term obr. met. no.7:3-7
(MIRA 13:10)
Jl '60.

1. Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya.
(Steel--Fatigue) (Mechanical wear)

KUDRYAVTSEV, I.V., doktor tekhn.nauk, prof.; SAVVINA, N.M., kand.tekhn.
nauk

Increasing the carrying capacity of large stepped shafts made of
alloyed steels. Vest.mash. 41 no.11:11-15 N '61. (MIRA 14:11)
(Steel-Hardening)

s/137/62/000/012/032/085
A006/A101

AUTHORS: Kudryavtsev, I. V., Savvina, N. M.

TITLE: On the causes of a decrease in the fatigue strength of steel in contact zones

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1962, 50,
abstract 12I298 (In collection: "Tsyklich. prochnost' metallov",
Moscow, AN SSSR, 1962, 31 - 36)

TEXT: Additional information to literature data is presented making it possible to evaluate the causes of decreasing cyclic strength of steel parts in connection with contact phenomena. The authors determined the effect of the interlayer material between the specimens and the machine clamps and of the interlayer thickness upon the cyclic strength of flat steel plates in the spot of contact. The tests were made on CT-3 (St-3) steel specimens with the use of YII-30 (UP-30) type machines, which produce plain bending of the specimen in one plane at a symmetrical cycle with about 2000 frequency per 1 minute. The test basis was 10 million cycles. The tests were made with differently thick presspahn, Zn, Al, Cu, carbon and stainless steel specimens. The endurance limit was determined

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On the causes of a decrease in the...

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A006/A101

from the fracture of the specimen or from crack formation. The data obtained confirm the effect of the interlayer material and their thickness upon the cyclic strength. It is shown that the electric erosion factor may play an important part in the decrease of the cyclic strength. The authors believe that simultaneously the effect of other factors should also be taken into account, namely, stress concentration, mechanical wear of the surface, and fretting-corrosion. There are 6 references. See also RZhMet, 1961, 1I45.

O. Rymashevskiy

[Abstracter's note: Complete translation]

Card 2/2

s/123/62/000/024/003/005
A006/A101

AUTHORS: Kudryavtsev, I. V., Savvina, N. M.

TITLE: On the causes of reduced fatigue strength of steel in contact zones

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 24, 1962, 15, abstract 24A101 (In collection: "Tsiklich. prochnost' metallov", Moscow, AN SSSR, 1962, 31-36)

TEXT: Information is given on results of experiments performed to reveal the causes of reduced fatigue strength of steel parts in connection with contact phenomena. The authors determined the effect of the material and the thickness of backings between the specimens and the machine clamps, upon the fatigue strength of steel plates in the spots of contact (seal) on type УП 50 (UP50) machines. The machines perform plain bending of the specimen in one plane at a symmetrical cycle with a frequency of about 2,000 per 1 minute on the basis of 10^6 cycles. It is noted that the reduced fatigue strength of steel parts in contact zones (seal) is caused by the simultaneous appearance of the following

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On the causes of reduced fatigue strength of...

factors: stress concentration; electro-erosion failure of the surface, proceeding under the effect of thermo-electric current; mechanical wear of the surface, and "fretting"-corrosion. The degree of the effect of one or the other factor can be different under different conditions and is determined by the material of contacting parts under load.

[Abstracter's note: Complete translation]

Card 2/2

34849
S/135/62/000/003/001/00
A006/A101

18.111
AUTHORS:

Kharyavtsev, I. V., Professor, Doctor of Technical Sciences.
Savina, N. M., Candidate of Technical Sciences, Chernykh, V. V.
Engineer

TITLE:

The fatigue strength of alloyed steel joints produced by electric
slag welding

PERIODICAL:

Svarochnoye proizvodstvo, no. 3, 1962, 1 - 5

TEXT: The authors investigated fatigue strength of joints of 40XH (40KhN),
34XM (34KhM), 15GH4M (15GН4М), 22K and 20CrL +22K (20GSL+22K) steels, welded
by the electric slag method and subsequently subjected to heat treatment,
(quench-hardening, tempering, normalizing). Fatigue tests were made with pris-
matic plates (535x75x50 mm), surface-hardened by stamping on a horizontal milling
machine with the aid of an impact device. The mechanical properties of the base
and weld metal were determined and compared to those of carbon and low alloy
steels. The following results were obtained. The fatigue strength of electric
slag welded joints of rolled 22K steel, determined on specimens of 50x75 mm sec-
tion, which had been subjected to heat and mechanical treatment after welding.

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Card 1/2

KUDRYAVTSEV, I.V., d-r tekhn.nauk; SAVVINA, N.M., kand.tekhn.nauk

Fatigue of large-stepped shafts made of alloy steels. Acta
techn Hung 41 no.1/2:35-49 '62.

1. Tsentralnyy nauchno-issledovatel'skiy institut tekhnologii
i mashinostroeniya (TSNIITMASH), Moskva.

ACCESSION NR: AP4030667

S/0129/64/000/004/0032/0033

AUTHOR: Kudryavtsev, I. V.; Savvina, N. M.

TITLE: Influence of ten years storage on fatigue strength of spare parts with residual stresses

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 4, 1964, 32-33

TOPIC TAGS: cold hardening durability, residual stress durability, fatigue limit, steel

ABSTRACT: The purpose of this work was a study of changing endurance limit (fatigue) of notched cold hardened samples due to prolonged storage (10 years). Rods of type 40 steel were surface rolled, increasing their surface hardness from HV 187 to 240 and creating considerable compressing stresses at the surface (50-60 kg/mm²). They were notched with a cutter after rolling. The fatigue of these samples was compared with that of other samples which were not cold hardened. The samples were tested for fatigue every year for ten years. It was found that increased strength of samples with induced residuary stresses does not change during protracted storage at normal temperatures. Orig. art. has: two figures, no

Card 1/2

ACCESSION NR: AP4030667

formulas and no tables.

ASSOCIATION: TsNIITMASH (Central Scientific Research Institute of Technical
Machinebuilding)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF Sov: 002

OTHER: 000

Card 2/2

KUDRYAVTSEV, I.V., KATAKIN, N.N.

Effect of ten-year storage on the fatigue resistance of parts
with residual stresses. Metalloved. i term. obr. met. no. 4:
32-33 Ap '64. (MIRA 17:6)

1. Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii
i mashinostroyeniya.

L 55860-65 EWT(m)/EWP(w)/EPF(c)/EWA(d)/T/EWP(t)/EWP(b) JD/NB

ACCESSION NR: AR5014021

UR/0277/65/000/003/0004/0004

539.434

23

B

SOURCE: Ref. zh. Mashinostroitel'nyye materialy, konstruktsii i raschet detaley mashin. Gidroprivod, Otdel'nyy vypusk, Abs. 3.48.21

AUTHOR: Kudryavtsev, I. V.; Savvina, N. M.; Burmistrova, L. N.

TITLE: Fatigue strength in the contact area

CITED SOURCE: Sb. Korroziya, ustalost' metallov. L'vov, Kamenyar, 1964, 137-154

TOPIC TAGS: fatigue strength, steel fatigue, contact fatigue, stress concentration, surface erosion, fritting corrosion

TRANSLATION: The study concerned the causes of the deterioration in fatigue strength of steel parts in contact areas. The combined effects of stress concentrations, surface erosion caused by the action of the thermoelectric current, mechanical abrasion of the surface and fritting corrosion were found to comprise the cause of lower fatigue strength of steel parts in areas of contact (embedding). A rough-rolled, unmachined surface reduces the endurance limit from 15 to 24%, as compared to smooth samples, for all tested steels, shapes and dimensions of sam-

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L 55860-63
ACCESSION NR: AR5014021

ples. The fatigue strength of plates or shafts with a rough or pre-corroded surface was higher than for machined samples in cyclic bending with contacting of coupled parts. Bibl. with 7 titles.

ENCL: 00

SUB CODE: MM

arum
Card 2/2

L 05835-67 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(t)/EPI/EWP(k)/EWP(h)/EWP(l) IJP(c)

ACC NR: AP6028100 (N) SOURCE CODE: UR/0229/66/000/004/0043/0046
JD/HM/EM

AUTHOR: Kudryavtsev, I. V.; Savvina, N. M.; Plishkin, N. N.

ORG: None

TITLE: Fatigue strength of propeller shaft models

SOURCE: Sudostroyeniye, no. 4, 1966, 43-46

TOPIC TAGS: fatigue strength, shaft, marine engineering, durability, surface hardening, mechanical property

ABSTRACT: The authors describe automatic weld surfacing of 1Kh18N9T stainless steel wire to marine propeller shafts developed at the Kanonersk Shipbuilding Plant. A study was carried out at the plant to determine the effect of the welded wire on the fatigue strength of marine shafts and whether their durability could be extended by cold surface hardening. Materials and procedures for producing shaft models for fatigue testing are given. The shaft models were tested on the NJ-200 resonance machine built by the Central Scientific Research Institute of Technology and Machine Building. The main components of this unit are: oscillator, inertial vibrator with drive, frame, hoisting equipment, engine generator and control panel. A diagram for this unit is given. The results show that welded-on metal lowers the fatigue strength of 180 mm shafts from 20 to 6.5 kg/mm². Cold surface hardening of weld surfaced shafts increases

UDC: 629.12.037.4:539.4

Card 1/2

L 05835-67

ACC NR: AP6028100

their fatigue limit from 6.5 to 14.0-15.5 kg/mm². The fatigue limit of polished shafts which were heated before weld surfacing is the same as for those that were not heated. The test data show that cold surface hardening improves the mechanical properties of shafts with weld surfacing. Orig. art. has: 4 figures, 1 table.

SUB CODE: 13/ SUBM DATE: None/ ORIG REF: 004

Card 2/2 egr

SAVVINA, YA. D.

Savvina, Ya. D. -- "Investigation of the Phase Equilibria of Methane with Individual Hydrocarbons." All-Union Petroleum Gas Sci Res Inst VNII, Moscow, 1955 (Dissertation for the Degree of Candidate in Technical Sciences)

SO: Knizhnaya Letopis', No. 23, Moscow, Jun 55, pp 87-104

SAVVINA, Ya. D.

USSR/Physical Chemistry. Thermodynamics, Thermochemistry,
Equilibria, Physical-Chemical Analysis, Phase Transitions.

B-8

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 1465⁴

Author : Ya. D. Savvina, A. S. Velikovskiy

Inst : -
Title : Liquid-Vapor Equilibrium in Binary Systems of Methane
with Hydrocarbons of Various Groups.

Orig Pub: Zh. fiz. khimii, 1956, 30, No 7, 1596-1605

Abstract: The liquid-vapor equilibrium in binary systems of methane
with 2,2,3-trimethylbutane, n-nonane, cyclohexane, benzene,
and toluene was studied within the temperature range from
40 to 150° and under pressures comprising the critical
ones. The study was carried out by the static method.
The installation scheme is shown and the methods of
measuring and sampling are described. 6 isotherms "pres-
sure-composition" were obtained for each system. Basing
on the experimental and bibliographical data, the compar-
ison of solubility of hydrocarbons of various groups

Card 1/2

USSR/Physical Chemistry. Thermodynamics, Thermochemistry,
Equilibria, Physical-Chemical Analysis, Phase Transitions.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420020-

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 1465⁴

Abstract: (paraffins, aromatic, naphthenic) in methane and of
methane in these hydrocarbons up to the critical pres-
sure was carried out.

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